Mineral Industry Surveys

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CHROMIUM IN SEPTEMBER 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in September 2005 increased 4% compared with consumption in August 2005; consumption in the third quarter 2005 increased 5% compared with consumption in the second quarter of 2005 and decreased slightly compared with consumption in the third quarter of 2004, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in September 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of September 2005, and U.S. foreign trade data for selected chromium-containing materials in August 2005.

Update

The Defense National Stockpile Center (DNSC) announced that 4,990 metric tons (t) of ferrochromium comprising 3,629 t of high-carbon ferrochromium and 1,361 t of low-carbon ferrochromium were sold in October at a value of $4.3 million, or $0.39 per pound gross weight (Defense National Stockpile Center, 2005).

Reference Cited

Defense National Stockpile Center, 2005, Stockpile announces ferrochromium sales for October 2005: Defense National Stockpile Center, News Release DNSC-06-2679, November 7, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004	2005				
	January-December[2]	Second quarter	July	August	September	January-September[2]
Production:						
Stainless steel production[3]	2,400,000 r	562,000 [4]	137,000	167,000	180,000	1,700,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	987,000 r	179,000	53,500	56,100	NA	475,000 [5]
Stainless steel scrap consumption	1,410,000 r	258,000	81,100	85,000	NA	692,000 [5]
Imports for consumption:						
Chromite ore	153,000	22,500	24,300	17,000	NA	103,000 [5]
Ferrochromium:						
More than 4% carbon	398,000	109,000	29,000	31,100	NA	286,000 [5]
More than 3% carbon but not more than 4% carbon	30	--	--	--	NA	-- [5]
More than 0.5%, but not more than 3% carbon	5,720	1,080	--	--	NA	3,510 [5]
Not more than 0.5% carbon	31,400	13,100	2,250	3,210	NA	29,700 [5]
Ferrochromium silicon	30,600	10,400	2,310	3,880	NA	26,800 [5]
Total ferroalloy imports	466,000	134,000	33,500	38,200	NA	346,000 [5]
Chromium metal[6]	9,630 r	3,100	945	1,010	NA	8,060 [5]
Stainless steel	811,000	196,000	60,200	63,400	NA	537,000 [5]
Stainless steel scrap	146,000	35,600	8,310	5,360	NA	81,100 [5]
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	454,000 r	103,000	35,300 r	35,900	37,100	316,000
Exports:						
Chromite ore	43,100	12,500	1,670	6,060	NA	32,200 [5]
Chromium ferroalloys:						
High-carbon ferrochromium	6,580	1,790	23,500	343	NA	29,300 [5]
Low-carbon ferrochromium	1,410	322	1,220	231	NA	3,670 [5]
Ferrochromium silicon	1,150	8	48	10	NA	115 [5]
Total ferroalloy exports	9,140	2,120	24,800	584	NA	33,100 [5]
Chromium metal	931	240	51	130	NA	626 [5]
Stainless steel	323,000	111,000	27,700	28,200	NA	259,000 [5]
Stainless steel scrap	478,000	158,000	40,300	44,700	NA	381,000 [5]
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	XX	12,000	13,000	12,600	XX
Government stockpile:						
Chromium ferroalloys	XX	XX	508,000	510,000	503,000	XX
Chromium metal	XX	XX	6,190	6,190	6,210	XX

rRevised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January through August data; September data not available.

[6]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2005[1, 2]

(Metric tons, gross weight unless otherwise noted)

	August	September	January-September[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	318	333	3,300
High-strength low-alloy steel	619 r	643	5,600
Stainless and heat-resisting steel	31,100	32,500	272,000
Full alloy steel	1,610	1,420	14,400
Electrical steel	W	W	W
Tool steel	454 r	405	4,000
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	815 r	822	7,520
Other alloys[4]	48	42	540
Total	35,900	37,100	316,000
Total, chromium content	20,800	21,600	184,000
Consumption by material:			
Low-carbon ferrochromium	1,960 r	1,860	17,200
High-carbon ferrochromium	30,000	31,200	366,000
Ferrochromium silicon	3,230	3,390	27,200
Chromium metal	465 r	471	3,980
Chromite ore	W	W	W
Chromium-aluminum alloy	27 r	27	262
Other chromium materials	W	W	W
Total	35,900	37,100	316,000
Total, chromium content	20,800	21,600	184,000
Consumer stocks:			
Low-carbon ferrochromium	2,030 r	1,940	XX
High-carbon ferrochromium	9,180 r	8,920	XX
Ferrochromium silicon	1,590	1,500	XX
Chromium metal	129 r	140	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	33 r	34	XX
Other chromium materials	W	W	XX
Total	13,000	12,600	XX
Total, chromium content	7,560	7,380	XX

[r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes estimates.

[3]May include revised data.

[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY
OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:			
September	408,000	192,000	6,670
October	404,000	192,000	6,670
November	398,000	191,000	6,670
December	398,000	191,000	6,670
2005:			
January	386,000	190,000	6,190
February	378,000	188,000	6,190
March	368,000	187,000	6,190
April	359,000	187,000	6,190
May	359,000	187,000	6,190
June	331,000	182,000	6,190
July	328,000	180,000	6,190
August	324,000	187,000 [3]	6,190
September	327,000 [3]	176,000	6,210 [3]

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2004:							
August	10,200	$2,680	533	322	$685	93	$1,510
September	2,750	1,590	706	401	876	53	1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600
2005:							
January	2,550	618	427	257	610	103	1,070
February	1,540	404	2,150	1,330	2,910	35	796
March	7,910	1,310	3,050	1,850	4,070	66	983
April	6,930	1,820	686	419	913	85	1,580
May	5,040	923	653	402	804	64	1,190
June	516	190	776	486	1,010	91	1,520
July	1,670	697	24,800	16,600	23,800	51	781
August	6,060	1,420	584	356	789	130	1,560
January-August	32,200	7,380	33,100	21,700	34,900	626	9,490

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004	2005		
	January-December[2]	July	August	January-August[2]
Chromite ore:				
More than 40% but less than 46% chromic oxide:				
Gross weight	1,690	144	16,700	17,400
Chromic oxide content	761	66	7,680	8,020
46% or more chromic oxide:				
Gross weight	151,000	24,100	320	86,000
Chromic oxide content	71,600	11,300	161	40,300
Total, all grades:				
Gross weight	153,000	24,300	17,000	103,000
Chromic oxide content	72,400	11,300	7,840	48,300
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	31,400	2,250	3,210	29,700
Chromium content	21,100	1,570	2,180	20,400
More than 0.5% but not more than 3%:				
Gross weight	5,720	--	--	3,510
Chromium content	3,830	--	--	2,280
Total, low-carbon:				
Gross weight	37,100	2,250	3,210	33,200
Chromium content	24,900	1,570	2,180	22,700
Medium-carbon:[4]				
Gross weight	30	--	--	--
Chromium content	16	--	--	--
High-carbon:[5]				
Gross weight	398,000	29,000	31,100	286,000
Chromium content	223,000	14,600	19,600	168,000
Total, all grades:				
Gross weight	435,000	31,200	34,300	320,000
Chromium content	248,000	16,100	21,800	191,000
Chromium metal:				
Unwrought powders	1,350	126	140	689
Waste and scrap	74 r	2	--	14
Other than waste and scrap and unwrought powders	8,200	817	865	7,360
Total, all grades	9,630 r	945	1,010	8,060

r Revised. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	August			January-August[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
Australia	--	--	--	13	9	$11
China	--	--	--	13	8	11
Kazakhstan	16,500	11,400	$16,200	80,400	55,700	83,200
Russia	--	--	--	27,700	18,300	23,900
South Africa	5,200	2,640	3,330	135,000	67,900	86,200
Zimbabwe	9,430	5,590	7,490	43,700	26,000	35,300
Total	31,100	19,600	27,000	286,000	168,000	229,000
Low-carbon ferrochromium:[5]						
More than 0.5% but not more than 3% carbon:						
India	--	--	--	20	13	17
Kazakhstan	--	--	--	850	587	1,350
Russia	--	--	--	1,830	1,240	2,030
South Africa	--	--	--	810	446	905
Total	--	--	--	3,510	2,280	4,300
Not more than 0.5% carbon:						
China	--	--	--	24	16	53
France	--	--	--	4	3	8
Germany	337	238	716	3,420	2,400	6,600
Japan	340	237	1,000	1,810	1,270	5,010
Kazakhstan	676	466	1,050	2,770	1,890	4,230
Russia	1,570	1,080	2,320	21,200	14,500	30,900
South Africa	293	163	310	501	268	402
Turkey	--	--	--	4	2	8
Total	3,210	2,180	5,400	29,700	20,400	47,200
All grades:						
Australia	--	--	--	13	9	11
China	--	--	--	37	25	64
France	--	--	--	4	3	8
Germany	337	238	716	3,420	2,400	6,600
India	--	--	--	20	13	17
Japan	340	237	1,000	1,810	1,270	5,010
Kazakhstan	17,100	11,800	17,200	84,100	58,200	88,800
Russia	1,570	1,080	2,320	50,700	34,000	56,800
South Africa	5,490	2,800	3,640	136,000	68,600	87,500
Turkey	--	--	--	4	2	8
Zimbabwe	9,430	5,590	7,490	43,700	26,000	35,300
Total	34,300	21,800	32,400	320,000	191,000	280,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	August		January-August[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	35	$444	206	$1,630
France	--	--	6	78
Germany	--	--	13	147
Japan	25	1,080	224	5,820
Korea, Republic of	--	--	1	22
Malaysia	--	--	1	6
Russia	80	475	180	993
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	(4)	65	1	348
Total	140	2,060	689	9,300
Waste and scrap:				
Germany	--	--	4	70
Japan	--	--	9	128
Singapore	--	--	1	5
Total	--	--	14	203
Other than waste and scrap and unwrought powders:				
Austria	2	14	2	17
China	222	1,210	1,830	9,150
France	182	1,410	1,710	13,600
Germany	2	14	31	262
India	--	--	1	5
Japan	1	12	32	1,070
Russia	320	1,610	2,530	23,000
United Kingdom	137	914	1,220	7,810
Total	865	5,180	7,360	54,900
All grades:				
Austria	2	14	2	17
China	257	1,650	2,040	10,800
France	182	1,410	1,710	13,700
Germany	2	14	49	479
India	--	--	1	5
Japan	26	1,090	265	7,020
Korea, Republic of	--	--	1	22
Malaysia	--	--	1	6
Russia	400	2,080	2,710	23,900
Singapore	--	--	1	5
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	137	979	1,220	8,160
Total	1,010	7,240	8,060	64,400

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2005[1]

Stainless steel product	August		January-August	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	698	$3,130	5,600	$29,100
Flat-rolled (width > 600 mm)	13,600	36,700	118,000	324,000
Flat-rolled (width < 600 mm)	7,520	27,200	82,900	298,000
Bars and rods in irregular coils	619	1,840	4,050	12,100
Other bars and rods	2,030	12,100	18,600	105,000
Wire	480	4,150	3,810	29,600
Tubes, pipes, hollow profiles	3,320	19,700	26,200	145,000
Total	28,200	105,000	259,000	943,000
Stainless steel scrap	44,700	51,700	381,000	429,000
Grand total	72,900	156,000	641,000	1,370,000
Imports:				
Ingot	8,690	26,000	108,000	300,000
Flat-rolled (width > 600 mm)	25,200	66,900	201,000	543,000
Flat-rolled (width < 600 mm)	4,340	17,200	29,800	119,000
Bars and rods in irregular coils	3,280	9,670	28,800	82,200
Other bars and rods	8,620	33,600	73,000	283,000
Wire	3,350	14,900	27,400	120,000
Tubes, pipes, hollow profiles	9,950	60,600	69,300	385,000
Total	63,400	229,000	537,000	1,830,000
Stainless steel scrap	5,360	5,810	81,100	93,700
Grand total	68,800	235,000	618,000	1,920,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.